

## Solid Waste

### PROGRAM DESCRIPTION

The Division of Solid Waste Disposal and Resource Recovery and the Division of Solid Waste Collection and Recycling provide solid waste services for the County. Refuse collection and recycling services are available to all citizens of Fairfax County by either private contractors or County collection crews. Private contractors presently account for 87 percent of refuse collected. The remaining 13 percent are collected by County collection crews or contractors working for the County. The County also provides refuse collection services to all County agencies (except schools). Additionally, the County provides leaf collection services to participating neighborhoods. In order to provide the County with a long-term solution to refuse disposal, an Energy/Resource Recovery Facility was constructed at the site of the I-95 Landfill. This facility, which is privately owned and operated by Covanta Fairfax, Inc. (CFI), began commercial operation on June 1, 1990, and has a design capacity of 3,000 tons per day (TPD).

### LINK TO THE COMPREHENSIVE PLAN

Fairfax County's Comprehensive Plan has established a number of objectives and policies in order to:

- ✓ Provide conveniently located solid waste management facilities and operations, while ensuring these facilities are compatible with adjacent land uses.
- ✓ Provide an efficient, cost effective, and environmentally sound, comprehensive solid waste management system that meets the current and future needs of the County.
- ✓ Provide a waste reduction and recycling program that meets the current and future needs of the County.

Source: 2003

Edition of the Fairfax County Comprehensive Plan, as amended

### CURRENT PROGRAM INITIATIVES

The County operates two permitted solid waste management facilities - the I-95 Sanitary Landfill and the I-66 Transfer Station - and developed the Energy/Resource Recovery Facility. All three facilities are operated under permits issued by the Virginia Department of Environmental Quality (VDEQ). The I-95 Landfill and the Energy/Resource Recovery Facility are located on land recently transferred from Federal Government ownership to County ownership.

The I-95 Landfill is the only sanitary landfill in the County and provides land disposal for ash originating not only in Fairfax County, but also in Arlington County and the Cities and Towns of Alexandria, Fairfax, Falls Church, Vienna, Herndon, and Clifton.

The I-66 Transfer Station has been operational since 1983. Refuse deposited by collection vehicles is loaded into tractor-trailer trucks and transported 29 miles to the I-95 Energy/Resource Recovery Facility or other appropriate locations for disposal. Based upon growth, which occurred in the County, and changes in handling recycled products, the County completed an expansion of the station in 1997. The expansion added approximately 36,000 square feet of disposal area within 11 enclosed bays.

The total capital cost of the Energy/Resource Recovery Facility was \$195,000,000, which was financed through the sale of revenue bonds and the owner's capital. CFI has constructed additional air pollution control equipment at the Energy/Resource Recovery Facility to comply with provisions of the Clean Air Act. Mercury, acid gases, and nitrogen oxide removal systems are now operational. The capital cost for the air pollution systems was \$7.75 million, and was funded through bonds originally purchased for the facility and owner equity. The facility recently added an ash conditioning system through the introduction of dolomitic lime into the top and bottom ash and mixing the ash to ensure a more consistent ash product for disposal in the ash landfill. Implementation of this system cost about a half-million dollars.

The Newington Refuse Collection Complex currently houses the County's collection fleet along with administrative facilities for personnel. This facility will be undergoing energy retrofits within the coming year, to minimize energy use. Infrastructure costs are paid by refuse collection fees.

The County completed its Solid Waste Management Plan in June 2004, and after Board of Supervisors approval it was submitted to the Virginia Department of Environmental Quality who subsequently approved the plan in 2005. The plan developed strategies for managing an ever-increasing amount of solid waste during the next twenty years.




## **CURRENT PROJECT DESCRIPTIONS**

1. **I-66 Transfer Station Expansion.** This is a continuing project to expand the building, redesign, and reconstruct the Citizens' Disposal Facility (CDF) due to landfill settlement, combining customer growth and access to the former ballfield property, miscellaneous repairs to the old portion of the original transfer station building and other on-site needs. The design work for the CDF portion of this project will be completed during FY 2006 and the construction is expected to begin during FY 2007 and will be completed during FY 2008. Previous improvements included initial construction of the CDF and expansion of the tipping floor.
2. **I-95 Landfill Liner Area 3.** This is a continuing project for Phase III construction of the ash containment flexible membrane liner; estimated amounts for Phase III are conservative, and will require further evaluation based on construction techniques available for synthetic membrane systems. Phase IV of the project is not covered during this planning period. Phases I and II, funded at \$14,356,000, have been completed.
3. **I-95 Landfill Leachate Facility.** This a continuing project for the treatment of leachate fluids collected from liner systems at the Landfill. Development of a leachate pretreatment/treatment facility is in the interim design stage, pending analysis of leachate characteristics.
4. **I-95 Landfill Road Construction.** This is a continuing project to construct various haul roads essential at the I-95 Landfill for truck traffic to access the Area 3 Lined Landfill.
5. **I-95 Landfill Perimeter Fence.** This is a continuing project to construct fencing enclosing the perimeter area of the I-95 Landfill and for various shop maintenance facilities. This project is near completion.
6. **I-95 Landfill Paved Ditch Extension.** This is a continuing project to provide drainage improvements for the intermediate slopes of the I-95 Landfill to control erosion. This work involves placing armored ditches on side slope areas and stormwater pipes at bench crossings.

7. **I-95 Landfill Closure.** This is a continuing project. As various phases of the landfill are completed, closure of those phases must begin. Phases I and II of the raw waste landfill closure are complete. Phases III and IV of the Landfill Closure are under construction and will be completed in FY 2007. These first four phases will close the existing municipal solid waste portion of the Landfill with a cap to “seal” the Landfill from external sources through the use of low-permeability soil and other materials. Additional phases of closure will occur for the Area Three Lined Landfill (ATLL) Unit, with phases extending through approximately 2025 as needed.
8. **I-95 Landfill Methane Gas Recovery.** This is a continuing project to capture methane gas generated from the I-95 Landfill by means of collection wells and pipes. The project is a multi-phase project. As an additional benefit, a portion of the recovered methane is being utilized to produce electricity at the Landfill, for sale to Dominion Power. A pipeline that runs between the I-95 Landfill and the Noman M. Cole, Jr. Pollution Control Plant, to convey excess landfill gas to the treatment plant for use as a fuel, was completed during the summer of 1997. In 2005, a project was added to enable the use of landfill gas as a fuel source to heat the shop building at the I-95 Landfill.
9. **Newington Refuse Collection Facility.** \$486,000 to fund infrastructure repairs to the existing building and pavement areas. The project is a multi-phase project over several years that will not expand the footprint of the existing site, but will serve to maximize administrative space, and provide heating and lighting upgrades that minimize energy use. Additionally, pavement strengthening will need to occur over much of the site to repair asphalt that has been impacted by large heavy trucks.

**PROJECT COST SUMMARIES**  
**SOLID WASTE**  
**(\$000's)**

Project Title/ Project Number	Source of Funds	Anticipated to be Expended Thru FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total FY2007-FY2011	Total FY2012-FY2016	Total Project Estimate FY 2007-16
1. I-66 Transfer Station Expansion / 174002 through 174006	X	<i>C</i>	<b><i>2,800</i></b>		<b><i>8,000</i></b>			10,800		10,800
2. I-95 Landfill Liner Area 3 / 186435	X	<i>C</i>	<b><i>2,249</i></b>		<b><i>8,545</i></b>			10,794	<b><i>8,500</i></b>	19,294
3. I-95 Landfill Leachate Facility / 186440	X	<i>C</i>						0		0
4. I-95 Landfill Road Construction / 186450, 186460	X	<i>C</i>						0		0
5. I-95 Landfill Perimeter Fence / 186455, 186420	X	<i>C</i>						0		0
6. I-95 Landfill Paved Ditch Extension / 186470	X	<i>C</i>						0		0
7. I-95 Landfill Closure / 186650	X	<i>C</i>		<b><i>10,500</i></b>				10,500		10,500
8. I-95 Landfill Methane Gas Recovery / 186600	X	<i>C</i>						0	<b><i>773</i></b>	773
9. Newington Refuse Collection Facility / 171500	X	<i>C</i>		<b><i>225</i></b>	<b><i>261</i></b>			486		486
<b>TOTAL</b>		<i>C</i>	\$5,049	\$10,725	\$16,806	\$0	\$0	\$32,580	\$9,273	\$41,853

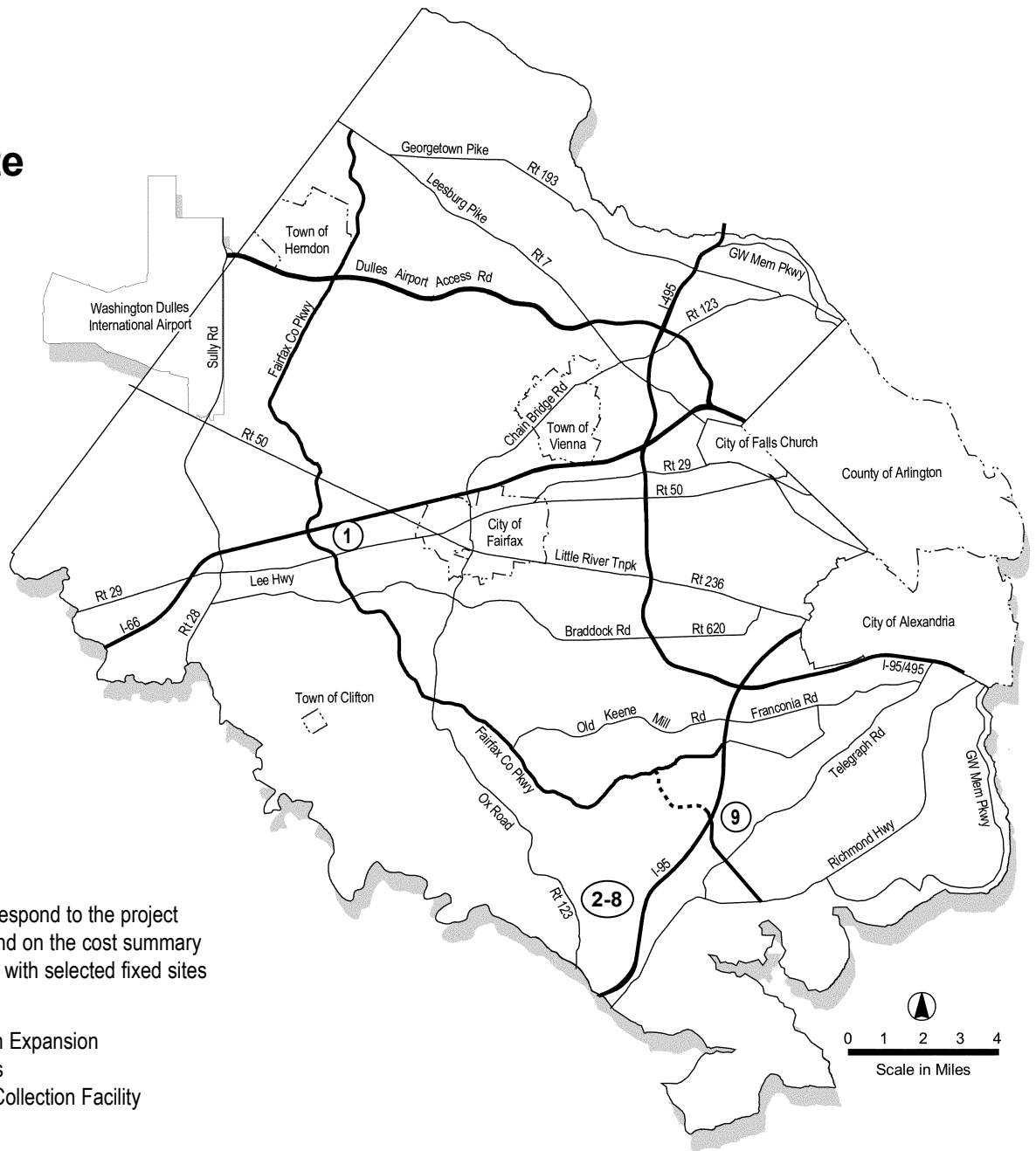
<b>Key: Stage of Development</b>	
	Feasibility Study or Design
	Land Acquisition
	Construction

**Notes:**  
Numbers in ***bold italics*** represent funded amounts.  
A "***C***" in the "Anticipated to be Expended Thru FY 2006" column denotes a Continuing Project.  
For some projects annual expenditures have not yet been determined; however, all projects are considered continuing.

<b>Key: Source of Funds</b>	
B	Bonds
G	General Fund
S	State
F	Federal
X	Other
U	Undetermined

# Solid Waste

## Location of CIP Projects



**Note:** Map numbers correspond to the project descriptions in the text and on the cost summary tables. Only CIP projects with selected fixed sites are shown on the map.

- 1. I-66 Transfer Station Expansion
- 2-8. I-95 Landfill Projects
- 9. Newington Refuse Collection Facility